Creating Video For the Web

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UrbanFox Ltd

All of this presentation will go
onto our website

www.urbanfox.tv/seminar

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Why do you want to put video on the web?

Good news

- You can use any camera

- In fact maybe you don't need a conventional camera at all

PUSA

PUSA web site - www.presidentsrock.com

Bad news

- You need to use the best camera you can afford…Garbage in = Garbage out
- Also, the web may turn out to be only a starting point
- DVD
- Stock footage

Which Camera?

- Assuming you're on a tight budget
- Good lens - does it really need to be interchangeable?
- CCD/CMOS - how many and how big?
- Recording format - DV, HDV or DVCPROHD
- Audio inputs - minijacks or XLR?

CMOS or CCD - the important thing is how clean the image is (signal to noise ratio) - noise is something compression has difficulty with.

Shot Sizes

- Typically viewers see a window of about 8cm, viewed from about 40cm-50 away.

- The smaller the screen size the tighter the shot.

AUDIO

- Audio is more important than the video

Microphones

- Buy the best you can afford
- Buy directional mics if you tend to work in noisy areas
- Use wind gags if you shoot outside
- Learn how to use them correctly

Rule 1, 2 & 3 of audio

1) Get the microphone as near to the sound source as possible - without looking silly
2) Only use the mic on top of a camera for atmos or as a backup
3) Listen for unwanted background noise. Minimise it with the correct mic, distance or on/off switch

ASPECT RATIO

- 4:3 or 16:9?
- Can have any aspect ratio you want
- But I'd recommend 16:9 - to future proof your material

You can always crop it later…

Font Sizes

- Small font sizes may be unreadable
- Font sizes should be as large as possible

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TEXT

- Try a contrasting colour behind the text

14 blocks of Manhattan's
In the Summer of 1961

Consider putting the titles and credits around the video on the html page.

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Find this version of West Side Story and other trailer mash ups at www.ifilm.com

Compression

See you tonight at 7pm - Christina.   (35)

See you at 7 - cfx   (18)

CU@7   (4)

More likely to introduce errors

The message will not be as clear

Essential information is lost

Compression works best…

- where there are a minimum of changes between one frame and the next.

- when detail is reduced.

- Less is more…

- Compression works best where minimum of changes between one frame and next, because then there is a minimum of compression.

- Reduce detail in the background. Swaying leaves or football crowds compress badly – too much information changing too quickly.

- Avoid zooming and camera moves – every pixel changes. Use a tripod. Less is more…

- Get closer to the action – instead of wide shot of man holding gun, close up of gun in hand…. Compresses better, and more easily seen in small viewing window.

- Compressing live at good quality is a LOT harder (and more expensive) than compressing later.

Beware

- Dark scenes are difficult to compress. So, use lots of light/shoot in daylight.

- Don't use gain – it adds noise. Compression hates noise.

- Turn off autofocus – to stop hunting.

- Don't use auto iris (exposure). Both can affect every pixel.

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Set Dressing

- Keep it simple

- No fussy patterns

- Use a shallow Depth of Field to reduce the impact of busy backgrounds

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Shooting style = K.I.S.S.

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Get a Mac ad from www.apple.com

EDIT style

- Use cuts

- Keep transition effects to a minimum

- Fades can compress badly. [video]

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Edit for Compression

Use cuts, not fades or transition effects. Fades can compress badly.

In all cases, you can get away with more at higher data rates (because the compression doesn't have to work as hard).

[[[INSERT VIDEO - Hanks as Bond.flv - from YouTube]]]

Tom Hanks as 007

- CREATED BY: Double D Enterprises, Chocolate Cake City
- MOVIES USED: Casino Royale, Layer Cake, Volunteers, Road to Perdition, Dragnet, Sleepless in Seattle, The Da Vinci Code, Splash, Turner and Hooch, Bachelor Party, The Bonfire of Vanities, The Man with One Red Shoe, The World is Not Enough, Nothing in Common, Tommorow Never Dies, The 'burbs, The Money Pit, Every Time We Say Goodbye, Big, Cast Away [20 movies]

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The Going Rate

- Think about all the distribution methods your video might go through….
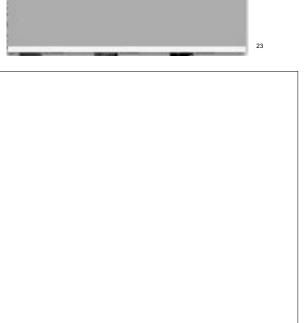
- Different versions for different data rates:

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You've got to think about all the different distribution methods your video might go through: analogue and digital TV, DVD, iPod, mobile phone, live streaming, different download sites.

One version might not be enough.

You might even want to shoot/edit different versions for different data rates – an audio track with stills for traditional modems; a locked off camera version for mobile applications; and a best version for broadband/DVD.

BBC offers two qualities for connections above and below 256k

Apple has four sizes to choose from….

The going rate…

- At any given data rate, you can have higher resolution or higher frame rates.
- 14 or 15fps at 256x144
- 10fps at 320x180 (at 512Mbps)
- or crop

At any given data rate, there is a trade off between higher resolution or higher frame rates.

You might get 14 or 15fps at 256x144, but less than 10fps at 320x180 (at 512Mbps).

But, you can crop (you are not limited to standard 16:9 or 4:3 formats on the web).

Apple data rates

Use Scenario	Resolution & Frame Rate	Example Data Rates
Mobile Content	176x144, 10-15 fps	50-60 Kbps
Internet/Standard Definition	640x480, 24 fps	1-2 Mbps
High Definition	1280x720, 24p	5-6 Mbps
Full High Definition	1920x1080, 24p	7-8 Mbps

Apple uses a bitrate in H264 of between

7-8 Mbps for full HD 1920x1080 @ 24p

5-6 Mbps for 720p HD 1280x720 @ 24p

1-2 Mbps for SD 640x480 @ 24 fps

50-60 Kbps for Mobile Content 176x144 @ 10-15 fps

i versus p

- Interlacing is compression
- So, deinterlace
- Or shoot progressive.

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Forms of compression

Interlacing is compression.

You will probably get better results by deinterlacing before compression

Or shoot progressive.

Concatenation

- One type of compression, on top of another type of compression, on top of another type of compression….for example…

- 1080i HDV acquisition = interlacing + MPEG-2 Long GoP compression
- Then compressed using MPEG-4/H.264.
- Then submitted to YouTube (which uses Flash).
- = 4 types of compression….

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Sampling opinion

- MP3 audio
- Voice-only - mono up to 64k.
- Music - stereo 128k.
- For lowest bitrates (16k – for modem use), use low sampling rate (16 kHz – DV is 48kHz).
- Best results - use VBR encoding.

Variable bit rate encoding offers higher quality sound and a smaller file sizes

Pass notes

- VBR also applies to video.

- For extra quality - two-pass encoding.

- Use both 2-pass and VBR encoding.

VBR also applies to video, using more bits where there is most action, with fewer bits for unchanging frames.

two-pass encoding analyzes video for complexity and any transitions before encoding

YouTube settings

- www.natureflixs.com
- Compression - H264
- Quality - high
- Key Frame rate - 24
- Encoding pass - 2
- Dimension 320x240
- Audio AAC
- Sample rate 48,000
- Audio Bitrate 128 kbs

[[[[VIDEO INSERT - www.youtube.com/watch?v=mEE7ORJCS9c]]]

40mb for just under 5 minutes.

Settings in Quicktime Pro.

Compression H264

Quality - high

Key Frame rate - 24

Encoding pass -2

Dimension 320x240

Audio AAC

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Audio Bitrate 128 kbs

Codec (enCOder/DECoder)

- Best choices: RealVideo, H.264 and Flash
(according to www.streamingmedia.com research)

- If you use Flash, choose On2 VP6.2 codec in Adobe Flash Professional 8.

- http://www.adobe.com/products/flash/flashpro/

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If you are using Flash video, best results from the On2 VP6.2 codec in Adobe Flash Professional 8 – better quality at one pass encoding than other Flash encoders at two-pass – said www.streamingmedia.com.

http://www.adobe.com/products/flash/flashpro/

Flash at work

- http://www.dvlabs.com/ - VW ad.

- 760x412 @ 25 fps
- 29 seconds @ 7.34MB
- Import into Flash. Export with On2-VP6 to .flv file. Loaded into .swf container.

Where to put/get video on the Web…

Flash at work

[[[[Insert VIDEO - http://www.dvlabs.com/]]]

760x412 @ 25 fps

29 seconds @ 7.34MB - bit rate of just over 2Mbps.

They import the edited footage into Flash. Export it with On2-VP6 to a flash video (.flv) file, which is loaded into a flash (.swf) container.

Google Video
(http://video.google.co.uk) wants:

- AVI, ASF, QuickTime, Windows Media and MPEG formats (not Flash).
- Frame rate above 12 frames per second.
- Bitrate above 260 Kbps.
- Prefers original source file. Otherwise:
  - MPEG4 (mp3 or mp4 audio) at 2 mbps
  - MPEG2 (mp3 or mp4 audio) at 5 mbps
  - 30 frames per second
  - 640x480 resolution
  - 4:3 frame
  - de-interlaced

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YouTube

- accepts video files from most digital cameras, camcorders, and cell phones in the .WMV, .AVI, .MOV, and .MPG file formats.
- less than 10 minutes, smaller than 100MB
- MPEG4 (Divx, Xvid) format
- 320x240 resolution
- MP3 audio
- 30 frames per second

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YouTube accepts video files from most digital cameras, camcorders, and cell phones in the .WMV, .AVI, .MOV, and .MPG file formats.

less than 10 minutes, smaller than 100MB (unless you have 10+ minute account, but file size limit remains).

Recommended settings:
MPEG4 (Divx, Xvid) format
320x240 resolution
MP3 audio
30 frames per second

Joost

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Joost

http://joost.com/ - from the people behind Skype/ Kazaa – P2P network.
Aiming to be more than just another YouTube – with channels (users can create their own). It's a streaming service, rather than a file download service – up to 320MB per hour downstream (105MB upstream). Full screen. DRM where necessary. Commercials. Still Beta.

[[[Joost.jpg]]]

Others…

- Other video sites include:

- www.brightcove.com

- www.ifilm.com

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Brightcove (www.brightcove.com)
www.ifilm.com

Make money

- Video on the Web can pay

- You can sell videos on Google - only in the US right now.

- YouTube ad revenue sharing

Revver.com

"We pair your video with a targeted advertisement.

Share your video across the web. The more people see it, the more money you can make.

We split the ad revenue with you 50/50."

Revver has a100MB file limit

Formats: MOV, MPEG, MPG, MP4, WMV, ASF, AVI (including DIVX), 3gp, and 3g2.

http://stage6.divx.com/

http://stage6.divx.com/

Allows you sell videos (encrypted). They take 10% plus one-third of a cent per MB (works out you get 60% to 80% depending on sale price).

Size limit = 2GB….

[[[stage6.divx.com.png]]]

Forum:

- http://dvinfo.net – useful forums for web video info….

Resources:

http://dvinfo.net – good forums

Most popular thing on YouTube…..

- Comedian Judson Laipply's "Evolution of Dance" is YouTube most viewed clip ever, with more than 40 million hits.

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[[[INSERT VIDEO - www.tinyurl.com/kvrl7]]]

More mash ups

- Scary Mary

Scary Mary video

A recut of Disney's 'Mary Poppins' by Chris Rule – just one of many Trailer Mash Ups you can find online.

[[[[INSERT VIDEO - Scary Mary Poppins.flv]]]]

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